

DETAILED ACTION

Introduction

This action resets the period for response to 3 months and is sent in response to the phone conversation with Mr. Edward Callaghan dated 8/14/09 where Mr. Callaghan pointed out that although a revocation of power of attorney with a new power of attorney had been submitted on 6/5/09 the original office action dated 8/3/09 had been sent to the previous attorney.

Claim Objections

Claim 24 is objected to because of the following informalities: Line 3 of the claims states "wherein at least three radiation receivers arranged along the path". The Examiner believes this should be "wherein at least three radiation receivers are arranged along the path" and will examine the claim as such. Appropriate correction is required.

Claim 37 is objected to because of the following informalities: Line 4 of the claim includes a period after the word path, the Examiner believes this is a typo. Appropriate correction is required.

Election/Restrictions

Claims 44 and 45 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/29/09.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24-34, 36, 46, 48, 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson (4247922) in view of Wachter (5889490).

Referring to claims 24, 48, and 50, Jackson shows a location system that includes the a plurality of ultrasonic transmitters arranged along a path, wherein the distance between adjacent ultrasonic transmitters is greater than one meter (figure 1 Ref 42, 46, and 50). However Jackson does not show the use of at least three radiation receivers arranged along the path, Jackson shows the radiation receivers are placed on a vehicle that is in the path of the transmitter (see figure 1 Ref 16 and figure 2 Ref 32L and 32R).

Wachter shows a similar device that uses transmitter and receiver pairs that are located at the same position (figure 3 Ref 74 and 78). It would have been obvious to modify Jackson to include the transmitter and receiver that are both located along the path as shown by Wachter because this allows the device to range a vehicle that may not have the receivers that are located on the vehicle and also to range personnel that are not carrying receivers.

Referring to claim 25, Jackson shows transmitters are arranged at mutually uniform distances between mutually adjacent transmitters, the uniform distances in the range of from one meter to three meters and wherein the transmitters are arranged

along a straight section (assuming standard dimensions of the person and forklift in the figure 1 it would have been obvious to arrange the transmitter from one to three meters based upon figure 1).

Referring to claim 26, Jackson shows the uniform distances are approximately 1.5 meters to two meters (assuming standard dimensions of the person and forklift in the figure 1 it would have been obvious to arrange the transmitter from 1.5 to two meters based upon figure 1).

Referring to claim 27, Jackson shows transmitters are arranged along an aisle (figure 1 Ref 42, 44, 46, 48, 50, and 52).

Referring to claim 28, Jackson shows the transmitters are arranged along an aisle in a factory building (column 1 line 19-40).

Referring to claim 29, it would be obvious to include a factory that semiconductor wafers or other substrates for integrated electronic circuits are being processed because this is a well known type of factory and the material being produced really has no bearing on the ultrasonic position detection system being claimed.

Referring to claim 30, Jackson shows a drive unit operable to drive the transmitters based on a pulsed operating mode in which ultrasonic pulses are transmitted between transmission pauses (column 7 line 60-column 8 line 15).

Referring to claim 31, Jackson shows a drive unit operable to work cyclically and generate for the transmitters drive signals that instigate a transmission of ultrasonic pulses, wherein a cycle of the drive unit comprises at least two sections in each of which a different portion of the transmitters is driven, and wherein the drive unit

comprises a plurality of group drive units that generate the drive signals for a plurality of transmitters depending on an input signal (column 7 line 60-column 8 line 15 and figure 6).

Referring to claim 32, Jackson shows at least three further US transmitters arranged along a further path (figure 1 Ref 44, 48, and 52).

Referring to claim 33, Jackson shows the further US transmitters are arranged along a further straight section and at mutually identical distances between mutually adjacent transmitters, wherein the two paths lie parallel or transversely with respect to one another (figure 1 Ref 42, 44, 46, 48, 50, and 52).

Referring to claim 34, Jackson shows the path and the further path are arranged parallel to one another, and wherein one path, in the event of a parallel displacement, overlaps the other path completely or over at least 50 percent of a length of the further path (figure 1 Ref 42, 44, 46, 48, 50, and 52).

Referring to claim 36, Jackson shows a region into which no ultrasonic signal of the transmitters or only a greatly attenuated ultrasonic signal penetrates lies between the two paths (the position in figure 1 where the stacks of boxes are).

Referring to claim 46, Jackson shows a location determining method comprising: constructing a locating arrangement comprising a plurality of ultrasonic transmitters along at least one path (figure 1 Ref 42, 46, and 50); constructing at least two radiation receivers or two radiation transmitters that receive radiation from at least one region irradiated with sound by a transmitter (figure 4 Ref 32L and 32R); introducing at least one identification unit into a region irradiated with sound by at least two transmitters

(figure 4 Ref 120); carrying out an ultrasonic propagation time measurement from at least two transmitters to the identification unit and determining at least one propagation time datum (column 3 line 45 - column 4 line 20). However Jackson does not show determining a fine position of the identification unit depending on the propagation time datum; determining a coarse position of the identification unit using at least two radiation transmitters or radiation receivers ; and combining the fine position and the coarse position to form a location datum.

Wachter shows a similar device that includes determining a fine position of the identification unit depending on the propagation time datum; determining a coarse position of the identification unit using at least two radiation transmitters or radiation receivers ; and combining the fine position and the coarse position to form a location datum (column 5 line 55-column 6 line 30). It would have been obvious to modify Jackson to include the coarse and fine measurements and a processor using both measurements to determine distance because this allows the processor to determine an accurate distance if time allows but if the object moves too quickly allows the device to determine a rough distance and still have a basis to determine where the object is.

Referring to claim 48, Jackson shows using at least one of the locating arrangement as claimed in claim 24 or the identification unit as claimed in claim 44 (see rejection of claims 24 and 44).

Referring to claim 51, Jackson shows a communication system that outputs at least one of manufacturing data or transport data to output units fixed to the batch boxes (column 4 line 50-column 5 line 5).

Referring to claim 52, Jackson shows a communication system that outputs manufacturing data and transport data to output units fixed to the batch boxes (column 4 line 50-column 5 line 5).

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson (4247922) in view of Wachter (5889490) as applied to claim 46 above, and further in view of Figueroa (5280457).

Jackson shows a location system that includes the a plurality of ultrasonic transmitters arranged along a path, wherein the distance between adjacent ultrasonic transmitters is greater than one meter (figure 1 Ref 42, 46, and 50). However Jackson does not show the use of at least three radiation receivers arranged along the path, Jackson shows the radiation receivers are placed on a vehicle that is in the path of the transmitter (see figure 1 Ref 16 and figure 2 Ref 32L and 32R).

Wachter shows a similar device that uses transmitter and receiver pairs that are located at the same position (figure 3 Ref 74 and 78). It would have been obvious to modify Jackson to include the transmitter and receiver that are both located along the path as shown by Wachter because this allows the device to range a vehicle that may not have the receivers that are located on the vehicle and also to range personnel that are not carrying receivers. However neither Jackson nor Wachter shows determining the fine position by trigonometrical calculations in a plane which contains a section in which the ultrasonic transmitters are arranged and which contains the identification unit; and determining a fine position by one spatial coordinate.

Figueroa shows a similar device that includes the use of multiple transmitters and receivers that allow for determining the fine position by trigonometrical calculations in a plane which contains a section in which the ultrasonic transmitters are arranged and which contains the identification unit; and determining a fine position by one spatial coordinate (column 7 line 9-20). It would have been obvious to include the trigonometrical calculations as shown by Figueroa because this allows the device to track the position of the vehicle and load in multiple dimensions.

Allowable Subject Matter

Claims 35, 37-43, and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUKE D. RATCLIFFE whose telephone number is (571)272-3110. The examiner can normally be reached on 10:00-5:00 M-Sun.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Luke D Ratcliffe/
Examiner, Art Unit 3662